

Sub E10
F4
20.

A method of forming a cutting die comprising the steps of:

cladding a blade material onto a die surface by depositing said material in multiple successive layers to form a blade extending outwardly from said surface; and after said cladding step, shaping the cladded blade.

21.

A method of forming a cutting die comprising the steps of:

depositing a blade material in multiple successive layers onto a die surface by cladding to form a cladded blade extending outwardly from said surface; and after said depositing step, shaping the cladded blade.

22.

A method of forming a cutting die comprising the steps of:

depositing a layer of blade material onto a die surface by cladding; repeating the step of depositing blade material onto a preceding layer of blade material until a blade of desired thickness is formed extending outwardly from said surface; and after said blade of desired thickness is formed, shaping the blade.

23.

A method as in claim 22 wherein said depositing includes:

heating an area of said die surface; and introducing blade material into the heated area and building a blade of said material layer by layer outwardly from said surface.

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24.

A method as in claim 23 including heating said area with a laser.

25. A method as in claim 22 including a further step of heat treating said blade after said shaping.

26. A method as in claim 22 including a further step of cryogenic treating said blade after said shaping.

27. A method as in claim 22 wherein said depositing steps include:
scanning a laser beam along a die surface, in a path corresponding to a desired blade pattern;
melting said die surface along said path; and
introducing metal into said path while heating said path and repeating the scanning along said path to build up a die blade in said pattern.

REMARKS

Applicant acknowledges that claims 13-19, which relate to a proposed interference, are withdrawn from the application pending the outcome of the remaining claims.

The Examiner has rejected claims 1-7, 10 and 12 under 35 U.S.C. § 102(b) as being anticipated by Murphy et al., "The Rapid Manufacture of Metallic Components by Laser Surface Cladding". Claims 8, 9 and 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Murphy et al. in view of Cox et al. U.S. Patent No. 5,417,132.

Applicant respectfully traverses the rejection under § 102. The Murphy et al. article relates to cladding in general, and does not disclose, teach or suggest a method by which